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THE CENTER WAS ESTABLISHED IN OCTOBER 1964 THROUGH A 5-YEAR GRANT FROM THE FORD FOUNDATION. ITS PURPOSES ARE TO (1) ESTABLISH A NATIONAL INFORMATION DEPOSITORY IN THE FIELD OF VOCATIONAL AND TECHNICAL EDUCATION, AND AN INFORMATION CENTER, (2) CONDUCT RESEARCH AND DEVELOPMENT STUDIES IN VOCATIONAL AND TECHNICAL EDUCATION, (3) PROVIDE FINANCIAL SUPPORT FOR GRADUATE STUDY AND INTERNSHIPS IN VOCATIONAL AND TECHNICAL EDUCATION, (4) CONDUCT CONFERENCES AND WORKSHOPS FOR PERSONNEL ENGAGED IN RESEARCH IN THE AREA OF VOCATIONAL AND TECHNICAL EDUCATION, AND (5) DISSEMINATE RESEARCH FINDINGS BY A SERIES OF PUBLICATIONS TO BE DISTRIBUTED AMONG INTERESTED GROUPS. APPROXIMATELY 10,000 PUBLICATIONS WERE ACQUIRED OR CITED, AND TOPICAL BIBLIOGRAPHIES WERE COMPILED FOR OVER 150 PEOPLE REQUESTING THEM. TWENTY RESEARCH PROJECTS AND RELATED PUBLICATIONS WERE REPORTED IN THE AREAS OF APPRENTICESHIP TRAINING, PLANNING AND ESTABLISHMENT OF VOCATIONAL SCHOOLS AND PROGRAMS, OCCUPATIONAL DEMAND RELATED TO VOCATIONAL EDUCATION, VOCATIONAL EDUCATION FOR SPECIAL GROUPS, VOCATIONAL GUIDANCE AND COUNSELING, AND FOLLOWUP EVALUATION OF VOCATIONAL EDUCATION. TWELVE GRADUATE RESEARCH ASSISTANTS AND ONE INTERN TRAINEE WERE ASSOCIATED WITH THE CENTER. SIX CONFERENCES ON SUCH SUBJECTS AS RESEARCH, THE DISADVANTAGED, OCCUPATIONAL CHOICE AND JOB PLACEMENT, THE CURRICULUM, AND ECONOMICS WERE CONDUCTED. CENTER PUBLICATIONS INCLUDED (1) "THE JOURNAL OF HUMAN RESOURCES," (2) "THE IRRI REPORT," (3) "THE NEWSLETTER," (4) CONFERENCE PROCEEDINGS, (5) A REPRINT SERIES, AND (6) REFERENCE UNIT PUBLICATIONS SUCH AS BIBLIOGRAPHIES, A NATIONWIDE DIRECTORY OF VOCATIONAL AND TECHNICAL PROGRAMS, AND MISCELLANEOUS REPORTS. (MM)

U S DEPARTMENT OF HEALTH EDUCATION & WELFARE
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Center for Studies in VOCATIONAL & TECHNICAL EDUCATION

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PREFACE

The Center for Studies in Vocational and Technical Education was established at The University of Wisconsin in October 1964, through a five-year grant from the Ford Foundation. The principal purposes of the Center, as set forth at the time of its establishment, are as follows:

(1) The establishment of a national depository of data, documents, and publications relating to the field of vocational and technical education, and an information retrieval and dissemination center providing reference and bibliographical services for persons throughout the country active in the field.

(2) Research and development in vocational and technical education, dealing with related aspects of the labor market, guidance and couseling, and instruction and curriculum.

(3) Financial support for graduate study and internships in vocational and technical education, in order to provide an inducement for graduate students to work in the field and to promote leadership at various levels of vocational and technical education programs.

(4) Conferences and workshops bringing together personnel in vocational and technical education and those from universities and government agencies engaged in research in this area.

(5) Dissemination of research findings in the field of vocational and technical education, emerging both from the Center's own research activities and from those elsewhere, by means of a series of appropriate publications to be distributed widely among vocational edu-

cators, as well as government, university, business, labor, and agricultural groups.

The first year of the Center's activities was inevitably dominated by the hiring of an appropriate administrative, research, and library staff and by the acquisition of appropriate physical facilities within the University.

In the second year of operations, staffing was essentially completed. We feel especially fortunate in obtaining the services of Mr. Richard W. Whinfield as a full-time Administrative Associate. Prior to his appointment with the Center, Mr. Whinfield was Assistant Director of the Wisconsin State Board of Vocational and Adult Education. In addition to the Research Associates drawn from the faculty of The University of Wisconsin, in Business, Economics, Education, Industrial Relations, Psychology, and Sociology, we were very happy to acquire the expertise of a Visiting Research Associate, Dr. Norman F. Dufty, Vice Principal of the Perth Technical College in Australia.

A number of research projects initiated during the Center's first year were either completed or brought close to completion in the second year. Substantial progress was made in longer-term studies, and a number of new projects were undertaken. The research effort continues to focus on the problems of relating vocational education and training to the needs of a changing labor market.

The Reference Unit has continued to expand its holdings, as well as its information-retrieval services. The services to the vocational education system and to scholars working in this field include regular bibliographies, classified by subject matter, and a planned series of research abstracts. Numerous request bibliographies have also been distributed in the past year.

In addition, the development of vocational education has been furthered by a continued expansion of the Center's conferences and institutes, the involvement of graduate students in its study and and research programs, the participation of vocational educators in conferences and workshops, and the dissemination of conference proceedings, reprints, and other publications.

The Directors of the Center are grateful to the Ford Foundation for making these activities possible, and they are indebted to the staff members and the Advisory Committee of the Center for their invaluable assistance and cooperation.

J. Kenneth Little and Gerald G. Somers

Co-Directors

Madison, Wisconsin

October 1966

I. THE CENTER STAFF

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Gerald G. Somers, Professor of Economics

Administrative Associate
Richard W. Whinfield

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II. THE ADVISORY COMMITTEE

The Advisory Committee of the Center for Studies in Vocational and Technical Education gives broad guidance and direction to the Center staff in its programs of data-gathering and dissemination, research, and instruction. The members of the Advisory Committee are:

H. Edwin Young, President, The University of Maine (Chairman)

On-Campus Members

Lorentz H. Adolfson, Chancellor, University Centers, Madison
Robben W. Fleming, Chancellor, The University of Wisconsin, Madison (ex officio)
Erwin A. Gaumnitz, Dean, School of Business
Donald J. McCarty, Dean, School of Education
Donald R. McNeil, Chancellor, University Extension
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Off-Campus Members

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Melvin L. Barlow, Director, Division of Vocational Education, University of California, Los Angeles
Jacob F. Friedrick, President, Milwaukee Labor Council, Milwaukee
Clarence L. Greiber, Director, State Board of Vocational and Technical Education, Madison
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Edward J. Meade, Jr., Program Associate, The Ford Foundation (ex officio)
William J. Micheels, President, Stout State University, Menomonie
Angus B. Rothwell, Executive Director, Coordinating Committee on Higher Education in Wisconsin
Francis J. Walsh, Director, State Employment Service, Madison
Karl Werwath, President, Milwaukee School of Engineering

The first meeting of the Center's Advisory Committee, held February 26, 1965, was described in the first Annual Report. The second meeting, on December 1, 1965, was opened by Mr. Little, who, together with Mr. Kenneth Keller, formerly Information Coordinator with the Center, described the state of progress and activities of the Reference Unit. They particularly stressed the difficulty of obtaining knowledge about on-going research projects, and Committee members offered a number of suggestions for dealing with this problem.

Mr. Somers reported on the Center's research activities, assisted by Mr. Little, Mr. Samson, Mr. Perrone, and Mr. McKechnie. Mr. Little and Mr. Samson described the graduate study and internship program; and Committee members suggested using summer institutes to provide a base from which to choose interns, as well as offering interns an opportunity to work in teams on the problems of specific schools.

The Center's conferences and publications were described, and suggestions for future activities in these areas were offered. Other recommendations included the provision of a distinguished lecturers service for small vocational schools, with the Center defraying travel expenses; the creation of a consulting service on curriculum and other problems; and the setting-up of visiting teams to study specific school systems and their problems.

The Committee's third meeting was held May 23rd, 1966. Mr. Somers reviewed the Center's publications and past and future conferences. Mr. Little discussed the Reference Unit, demonstrating how documents received are classified and then recovered through the use of the Termatrex machine, and described the process by which these materials are abstracted. The extensive use being made of this service by outside requesters was noted.

Mr. ittle also explained the Center's sponsorship of Conference Fellows, who were chosen from among people who would benefit from attending our Conference on Research in Vocational Education (see the section of this report on Conferences). He commented that we hoped to extend this practice to future conferences as well. Research reports were presented by Mr. Petshek, Mr. Little, Mr. Perrone, Mr. Perlman, and Mr. Somers.

The Committee members expressed broad approval of the considerable progress the Center has made in meeting its goals, and the Center directors expressed their appreciation for the helpful suggestions made by the Advisory Committee.

The Wisconsin State Board of Vocational, Technical, and Adult Education

The State Board has recently established a Research Coordinating Unit, sponsored in part by the U.S. Office of Education. There has been a growing relationship with the State Board, whose staff has made a number of contributions to the Center.

The Center has been privileged to have Mr. J. R. Plenke, Chief of Trades and Industry, serve as a consultant for the conference on research approaches to new programs in vocational and technical education (see the section of this report on Conferences). Roland Krogstad and the State Board staff developed a list of research topics on which work might be done jointly with the Center. Lawrence Allwart of the State Board staff has given considerable time to accumulating statistics for the development of a research project in vocational and technical teacher training programs at The University of Wisconsin.

The staff of the State Board has been most cooperative in working with the Center on a study of effective procedures for establishing

vocational and technical education programs. They have also made themselves available to discuss with and inform Center personnel regarding a variety of questions dealing with specific research topics.

A research committee of the association of state directors of vocational education has expressed its concern, interest, and willingness to participate in a follow-up study of vocational and technical students.

III. THE REFERENCE UNIT

Purpose and Function

The purpose of the Reference Unit is to: (1) acquire as much data as possible that is pertinent to research in the field of vocational-technical education; (2) code this data into machine-readable form; (3) introduce the data into the machine; and (4) retrieve desired information data from the machine upon request. In accomplishing this purpose the Reference Unit function is divided into five separate and related parts, each having its own function: (a) acquisition, (b) indexing, (c) input, (d) output, and (e) additional services.

Acquisition

The major objective of acquisitions is to assemble worthwhile literature covering vocational education, with particular emphasis on research and innovation. Information coordinators survey a variety of source documents and references, ordering copies of material which seems appropriate. Pertinent materials that cannot be acquired (theses, research in progress, etc.) are also identified and cited in the system.

To date, approximately 10,000 publications have either been acquired or cited. While research in this field has not been vast, research in progress is considerable. The task of identifying such projects poses some difficulties, but progress is being made.

Indexing

While acquiring the appropriate materials is of critical importance

proper indexing of material is vital to its usefulness in answering requests for information. For this purpose the Center employs its own idexers for the general fields of economics, education, psychology, and sociology. Recognizing that there is highly specialized material in each of the vocational subject fields, knowledgeable university graduate students in agricultural education, business and distributive education, homemaking education, and guidance and couseling, working under their professors, identify and index materials of importance not covered by the Center's staff. Negotiations are under way to develop a similar arrangement with Stout State University to cover the trade and industrial education area.

Indexing consists of coding publications by use of terms that adequately describe their content. This procedure permits the identification of the document for all requests for information relevant to its content.

Input

When the indexing is completed, the document is housed in the Center Library and made available to any and all interested persons. The index sheet carrying the terms which summarize the document is forwarded to the machine section of the Reference Unit. Here the index sheet is recoded, i.e., each uniterm written on the index is given a code which is found in a 3 x 5 vocabulary file. The vocabulary now covers approximately 1,000 terms, not including synonymous terms, used in vocational education, and is being added to as the need arises.

The codes, corresponding to the uniterms indexed, are then read into the Termatrex machine. To date, approximately 4,500 references have been read into the Termatrex system. This then completes the second

and third purposes of the Reference Unit, reproducing the data into machine readable form and introducing the data to the machine.

Output

Upon request, general or specific information is retrieved from the Termatrex system. Topical bibliographies covering the subject of the request for information are typed and sent to the requester. One hundred fifty such requests have been received and answered with topical bibliographies on the subject requested. As the Center is becoming more widely known, requests are being received at a greater rate.

Additional Services

Added services being rendered by the Reference Unit include demonstrations of our operation to other universities and information centers, and aid is given to people and institutions who are establishing similar operations in their respective areas. The regularly issued bibliographies are described in the section of this report on Publications.

Being contemplated at this point is an abstracting service which would make available abstracts of important research completed in various vocational areas. These would also be made available upon request.

IV. RESEARCH

Research and development in the field of vocational and technical education is perhaps the most important aspect of the Center's activities. Following are summary statements of research conducted under the auspices of the Center during its second year. Inquiries concerning the full reports and publications should be addressed to the Center.

APPRENTICESHIP TRAINING

Union Interests in Apprenticeship and Training

Research Investigator: Jack Barbash, Professor of Economics.

This is an attempt to formulate a union theory of apprenticeship and training. From a broader standpoint, it is also a study of union interests and strategies in the labor market.

The study deals with three main points: (1) the place of apprenticeship and training in the larger scheme of union interests; (2) the settings in which these interests are enforced--internal government, collective bargaining, and legislative and political activity; and (3) the factors which influence and differentiate union interests--craft and industrial unionism, the level of union government, and the labor market status of trainees.

There are three substantial studies in the field: James Motley, Apprenticeship and American Trade Unions (1870); Paul Douglas, American

Apprenticeship and Industrial Education (1921); and Alford Kahler and Ernest Hamburger, Education for an Industrial Age (1948).

The main sources of evidence come from the contexts in which the union makes decisions on apprenticeship and training, namely, union constitutions and by-laws, collective agreements, and legislative histories of relevant laws. Studies and observations of problem situations provide material on union practice in a conflict setting.

The following paper resulted from the research: "Union Interests in Apprenticeship," Conference on Research in Apprenticeship Training, co-sponsored by the U.S. Office of Manpower Policy, Evaluation, and Research and the Center for Studies in Vocational and Technical Education, September 8, 1966 (see the section of this report on Conferences). Work on a further report is proceeding.

The Structure of Related Instruction in Wisconsin Apprenticeship Programs
Research Investigator: James S. Crabtree, Industrial Relations Research Institute, under the supervision of Alan C. Filley, Associate Professor of Business (Doctoral Dissertation, The University of Wisconsin).

As a process of preparing young people for productive lives in Wisconsin labor markets, state-approved apprenticeship has two major dimensions: (1) training on the job for a specified period, and (2) formalized education in a vocational school which offers related instruction programs. The present study focuses on the latter dimension, that is, the related instruction offered to apprentices as a part of their total preparation for work activity.

A major goal of the research will be to upgrade our knowledge of related instruction as an educational process and to determine more accurately its position in the total system of vocational and technical education. A second goal, which ties in closely with the first, will

be to describe the strengths and weaknesses of related instruction programs and administration as a groundwork for developing ways of improving the quality of this form of education.

The significance of the study will be to focus on the importance of apprenticeship, first, as an education process, and second, as a training technique. The implications are vital: regardless of the differing views of labor, the employer, and the state of Wisconsin, apprenticeship must be a saleable product to the young person, if it is to survive and compete on its merits.

The reporting method will be descriptive. Primary information sources include the 37 vocational schools offering programs of related instruction, the Industrial Commission, and the State Board of Vocational and Adult Education. Data collection at the local schools was completed in October 1966. Analysis is already under way on information gathered earlier through the Apprenticeship Division and the State Board of Vocational and Adult Education. Completion is scheduled for June 1, 1967.

A Study of Registered Joint Apprenticeship Committees in Wisconsin Building Trades

Research Investigator: Alan C. Filley, Associate Professor of Business, with the assistance of Karl O. Magnusen.

Joint apprenticeship committees represent a potentially crucial device for affecting the supply of, demand for, and quality of apprentices. There has been little information, however, on how these committees operate to promote and maintain apprentice training. The goal of this research, now completed, was to explore more fully the role of joint apprenticeship committees in Wisconsin building trades.

The specific objectices were, first, to discuss thoroughly the formal structure of the apprenticeship committee system in Wisconsin, and second, to contact, by means of a pre-tested questionnaire, all 131 of the registered

committees in the Wisconsin building trades to obtain descriptive information on the following topics: (a) committee structure, (b) member perceptions of committee functions, (c) apprentice-journeyman ratios, (d) committee selection procedures, (e) committee supervision of apprentices, (f) committee activities in influencing related instruction, and (g) judgments by committee members about possible changes affecting apprenticeship programs.

Questionnaire responses were received, after intensive follow-up, from 101 committees--a response rate of 77 percent. Detailed breakdowns of the acquired data by specific trades were essentially identical, indicating a general pattern of committee operation within the building trades.

A summary of the research was presented at the Conference on Research in Apprenticeship Training, co-sponsored by the Office of Manpower Policy, Evaluation, and Research of the U.S. Department of Labor, and the Center, and will be publishes in the Proceedings of that conference (see the section of this report on Conferences). The research will also serve as a Master's thesis for Mr. Magnusen.

THE PLANNING AND ESTABLISHMENT OF VOCATIONAL SCHOOLS AND PROGRAMS

An Investigation of Community Variations in the Establishment of Vocational Training and Retraining Programs

Research Investigators: Michael T. Aiken, Assistant Professor of Sociology, and Robert Alford, Professor of Sociology

The purpose of this study is to examine the relationship between social and economic structural properties of communities and the availability of vocational education programs. The study is being conducted among approximately 186 cities with populations between 25,000 and 250,000 and located in the industrial belt stretching from New England to the Rocky Mountains.

The availability of vocational education programs is being measured by the number of enrollees per 100,000 population in 1964-65 in several types of vocational and technical programs, i.e., vocational agriculture, business education, home economics or household arts, health, industrial education, and a combined total.

In addition to the traditional structural characteristics of communities such as size, regional location, age of city, economic expansion, socio-economic composition of the population, etc., a number of additional characteristics of these cities are being explored, e.g., degree of heavy vs. light industry, degree of absentee ownership of industry, and degree of concentration. To develop these latter two indicators, a list of all the industrial firms in each city was obtained from local chambers of commerce and supplemented with state industrial directories. Employment figures were also obtained from these sources. The ownership status of each firm was determined by consulting various national manufacturing directories such as Standard and Poor's, Fortune's, and Thomas' Registers of American Manufacturing. Both the employment figures and ownership status of each firm with 100 or more employees were verified through a short mail questionnaire.

All measures of the structural characteristics of communities, with the exception of the degree of absentee ownership and the degree of concentration of employment, have been obtained. Measurements of the latter two indicators are completed for most cities. The data for the availability of vocational education programs is approximately 70 percent complete. It is anticipated that the necessary information will be compiled by December 1, 1966.

South Milwaukee County Study
Research Investigators: John Helling, Assistant Professor of Educational Administration, in association with J.Kenneth Little, Professor of Educational Administration and Co-Director of the Center, with the assistance of Joseph McGivney, John Houle, and Karen Adams.

The Lakeshore Curriculum Study Council, an organization of some 22 Milwaukee County school districts, initially approached the Wisconsin State Board of Vocational and Adult Education with a proposal for a cooperative study of post-high school educational needs among eight South Milwaukee County school districts. The State Board invited the Center for Studies in Vocational and Technical Education to share in the study, and Center funds were committed to its budgeting.

The study problem originally arose as a result of concern about the paucity of vocational education facilities in the young but growing school districts of Whitnall, Greenfield, Greendale, Franklin, Oak Creek, South Milwaukee, Cudahy, and St. Francis. An advisory council of citizens engaged in commercial, civic, and industrial pursuits was nominated to plan with the superintendents of the eight districts for an evaluation of the situation. This advisory committee met with staff memeber of the Center and the State Board to formulate the guidelines for the study.

It was decided to break the study into three phases: data collection (March-September 1966); analysis (September 1966-January 1967); and formulation and publication of findings (January-June 1967). The first phase is nearly completed, and the second under way.

Phase one operations consisted of collecting data relevant to the adequacy of educational opportunities in South Milwaukee County. Three questionnaires and one interview schedule were developed to appraise the perceived educational needs of past and present high school students,

community members, and employers. In addition to the sampling of demographic information and attitudes, the existing facilities for vocational training were visited and assessed.

The first questionnaire developed was sent to individuals who had attended one of the eight high schools as juniors during the years 1955, 1957, 1959, 1961, and 1963. The second questionnaire was administered to all seniors (spring 1966) attending high school in the eight school districts. Both of these instruments were designed to appraise the socio-economic status of the respondents and help determine their occupational aspirations. In addition, their perceptions regarding desirable vocational training facilities for the area were sampled. A third questionnaire was constructed to assess employers' needs and opinions relative to the problem of adequate vocational preparation among employees from the South Milwaukee County area.

All of these questionnaires have been administered. The employer questionnaires netted a 60 percent return from the original mailing. A follow-up has been sent, and questionnaires are still being received. The senior questionnaires provided data from 95 percent of registered seniors. The student follow-up questionnaire to date shows a 64 percent completion rate.

An interview schedule was devised for use in sampling the demographic dimensions of the attitudes and perceptions revealed by residents of the eight school districts. A random sample of 1,032 residences was drawn from township assessment lists. (This was possible because school district and township lines are coterminous in South Milwaukee County.) The sample was drawn proportionately from each school district, so that data could be specifically attached to locale. A standard form was utilized by trained

volunteers and employed interviewers in gaining information from and about the selected residents. Approximately 1,000 interviews were successfully conducted.

Members of the study team visited the South Milwaukee County area for three days to examine the existing vocational training facilities. Each of the eight high schools plus the Milwaukee, Cudahy, and South Milwaukee vocational school plants were visited.

Within the past several weeks, the retrieval and compilation of data from the questionnaires and interview schedules began a process expected to continue through the fall. Preparation of a written report of the findings is scheduled for the spring semester of 1967.

A Study of the Effectiveness of Procedures for Establishing Vocational and Technical Programs in Wisconsin

Research Investigators: Gerald G. Somers, Professor of Economics and Co-Director of the Center, and Richard W. Whinfield, Administrative Associate of the Center.

Vocational and technical education in Wisconsin is designed to serve all segments of the labor force, with appropriate training programs generally aimed below the professional level. One of the problems in the establishment of new programs and courses is the identification of labor market needs. No systematic effort has been made to identify the procedures used in relating labor market information to the establishment of new courses or to place a quantitative and qualitative measure on the success of the various techniques. This study is designed to obtain information on procedures and to measure their effectiveness, by means of a survey of vocational educators and others who work with them in establishing and discontinuing vocational education programs.

The methodology of the study is to (1) inventory the procedures presently employed in the initiation of public school vocational and technical

programs, through a survey of school principals, coordinators, advisory committee members, and instructors; (2) estimate the effectiveness of these techniques through use of questionnaires directed to these persons; and (3) analyze the techniques and recommend improvements in their utilization. The survey in Wisconsin will be conducted in the fall of 1966, with a report to be prepared early in 1967.

It is anticipated that the Wisconsin survey will serve as a pilot project for a nation-wide survey to be initiated after analysis of the Wisconsin data.

STUDIES OF OCCUPATIONAL DEMAND RELATED TO VOCATIONAL EDUCATION

Long-Range Occupational Projections

Research Investigator: W. Lee Hansen, Professor of Economics and Educational Policy Studies, with the assistance of S. Muthuchidambaran.

This study is directed at evaluating current efforts to make long-range projections of occupational trends in the United States. The first report was in the form of a paper presented at the December 1965 meeting of the Industrial Relations Research Association, entitled "Labor Force and Occupational Projections;" it also appeared in the Vocational Education Reprint Series (see the section of this report on Publications).

Now in preparation, with completion anticipated by the end of 1966, is a second report which considers projections of supply of and demand for engineers, gathering together the series of studies that have been made in this area and examining them for their precision and vitality. An effort will also be made to appraise some of the key points of the project. A third report will consider occupational projections by broad occupational groups, as well as by broad industry categories; completion is expected during the spring of 1967.

Another paper of particular interest, entitled "Classification of Occupations: Some Problems of Economic Interpretation" and co-authored by Professor Hansen with Glen Cain and Burton Weisbrod, attempts to suggest alternative methods for classifying occupations and the economic rationale for these methods. This paper was presented at the August 1966 meeting of the American Statistical Association in Los Angeles.

An Evaluation of Area Skill Surveys as a Basis for Vocational Education and Manpower Policy

Research Investigator: Collette Moser, Economics, under the supervision of Gerald G. Somers, Professor of Economics (Doctoral Dissertation, The University of Wisconsin).

The purpose of this research is to evaluate Area Skill Surveys in terms of their accuracy and implementation. Area Skill Surveys are local labor market studies which project detailed occupational supply and demand for two to five years hence. They are conducted, in a variety of ways, by the majority of state public employment agencies.

The methods of evaluation employed in this project include the following: (1) examining and analyzing the form and content of the approximately 150 surveys presently in existence; (2) conducting follow-up surveys in various areas of the country, in order to validate the employer projections; and (3) administering questionnaires to vocational educators in several states designed to assess the use of this information on local occupational projections in curriculum planning and administration.

The project is currently entering the employer follow-up stage. Funds are being provided by the Office of Manpower Policy, Evaluation, and Research, U.S. Department of Labor.

Assessing the Extent of Manpower Forecasting, Training, and Planning in Milwaukee

Research Investigator: Richard Perlman, Professor and Chairman of Economics UW-Milwaukee, with the assistance of V.K. Chetty, Professor of Economics, UW-Milwaukee, Franz Backus, and Jack Guth.

This study attempts to measure the extent and nature of manpower forecasting among Milwaukee firms. Further, it strives to evaluate the degree to which these firms relate training and apprenticeship programs to manpower forecasts. The importance these firms attach to accurate forecasts and the extent and degree of technical procedures they use in arriving at them should serve as indicators of the value of the U.S. Department of Labor manpower forecasts, which are based on the responses of such firms as these.

A structured questionnaire (copies available upon request) was used as the interview instrument in exploring the individual firm's participation in manpower forecasting. A sample of 110 Milwaukee area firms was chosen from the population of those in the area whose workers are covered under unemployment compensation. They represent all industrial classifications and, except for about 30, employ more than 100 workers each. In addition, 50 non-profit firms with staffs not covered by unemployment compesnation (primarily institutions and hospitals) were included.

The tentative findings are as follows: (1) Of the 110 covered firms, only a few maintain a separate forecasting unit or have any employees whose major assignment includes manpower forecasting or who conduct forecasts on a formal mathematical basis. In the few instances where forecasting is done as a specific, repetitive task, it is usually confined to the needs for managerial personnel. Usually, forecasting is conducted through personnel departments by informal contacts with individual production units. There was very little evidence of forecasting on any basis among the uncovered firms.

(2) Most firms that forecast base their estimates on either sales projections or planned expansion of plant.

(3) There seems to be little relationship between the extent of forecasting and the firm's commitment to training and apprenticeship programs. Firms respond that they train, even though they do not forecast the need for workers who undergo training, because of (a) competitive conditions--other firms provide training and apprenticeship programs, and they must provide them to lure trainable workers in a tight labor market; (b) manpower needs--even though forecasts are not made, the firm believes there will always be a need for additional trained personnel for replacement and expansion, even though they do not know nor do they estimate the extent of these needs; and (c) prestige--perhaps related to (a), some respondents reply that a firm with an established position in its field should provide training facilities.

The 160 interviews collected will be coded, and relationships studied among such variables as industry, size of firm, extent of forecasting, type of training program, and self-appraisal of importance of forecasting to the firm. This statistical analysis should be completed by the end of 1966

<u>An Evaluation of Statistics on Job Vacancies and Occupational Forecasts for Purposes of Planning Vocational Education</u>
Research Investigator: Gerald G. Somers, Professor of Economics, with the assistance of Collette Moser and William Peyton.

This research is part of a larger continuing series of projects, assessing information on labor market demand and occupational information for the purposes of planning vocational courses, training courses, and counseling in high schools.

This phase of the research will appraise the availability and accuracy of current and projected information on job vacancies. The comparisons

are being made between job-vacancy information provided by the operating data of the Employment Service and the data obtained through special pilot surveys now being conducted in 16 communities by direct surveys of employers The experience in the United States and that in other countries are also being studied.

The following publications have resulted from this research during the past year:

Gerald G. Somers, "Survey of Job Vacancies and Occupational Statistics: Discussion," Proceedings of the American Statistical Association, Business and Economic Statistics Section, 1965.

Gerald G. Somers, "Job Vacancies and Structural Change in Japanese Labor Markets," in The Measurement and Interpretation of Job Vacancies (National Bureau of Economic Research, 1966).

Gerald G. Somers, "The Responsiveness of Vocational Education to Labor Market Changes," to be presented at a conference sponsored by The Brookings Institution, with publication expected in 1967.

STUDIES OF VOCATIONAL EDUCATION FOR SPECIAL GROUPS

An Evaluation of Testing Procedures for Admission of the Disadvantaged to Vocational Courses

Research Investigator: Charles Bridgman, Professor of Psychology.

There is general speculation that testing procedures used for the admission of regular students into courses in vocational and adult education may not be suitable for applicants from minority groups or from among the hard-core unemployed. The first phase of this study, now under way, encompasses a review of the literature and research findings on this issue. Depending on the results of this survey, it is expected that the second phase will center on efforts to construct testing instruments which will provide a more valid set of criteria for admission of disadvantaged workers into courses of vocational education and training.

The Role of Education in Furthering the Movement from Blue to White Collar Employment

Research Investigator: David B. Johnson, Professor and Chairman of Economic

This research is an extension in greater depth of a larger project which is being conducted under a grant from the U.S. Department of Labor. A 400-page draft of the final report on the larger project has recently been completed and submitted to the Department of Labor for their comments, after which the report will be put in final form.

The larger project has compiled data on the characteristics of 452 men in Milwaukee County who shifted from blue to white collar employment. These data will be further analyzed in the present project. As indicated in a previous report, it is apparent that shifters from blue to white collar jobs attended vocational and technical schools more often as part-time than as full-time students. It also appears that the role of vocational and technical schooling before and after the shift to white collar work varies greatly among different occupations. Further analysis will explore the relative importance of different kinds of schooling in acquiring skills for different white collar jobs.

Interviews with Milwaukee school officials will not be made until after completion of the larger research project and further analysis of the data to be used in this project. For a fuller explanation of the larger project, see James L. Stern and David B. Johnson, "Blue to White Collar Job Mobility: A Preliminary Report," Social Statistical section of the 1964 Proceedings of the American Statistical Association, pp. 166-86.

A Study of the Utilization of Vocational Education by Workers in LaCrosse, Wisconsin

Research Investigator: Graeme H. McKechnie, Project Associate, Industrial Relations Research Instiute.

Preliminary analysis has begun on this study of vocational school trainees in LaCrosse, Wisconsin. The data were gathered during the spring

and summer of 1962 from students enrolled in night courses in the departments of Trades and Industries and Commerce of the LaCrosse vocational school. Questionnaires were returned from 254 students, for a response rate of over 50 percent.

The answers to these questionnaires will be analyzed, together with answers to questions administered to a group of unemployed workers. This latter group will serve as a control, in that they have no experience with vocational school. The analysis will consist of comparing the labor force history of the two groups and contrasting those who completed training with those who dropped out of training.

Barriers to Employability, with Special Reference to Training
Research Investigator: Kirk R. Petshek, Professor of Urban Affairs, UW-Milwaukee, with the assistance of Mrs. Agnes Zeidler and Mrs. Arlayne Weston.

In some ways, this project follows logically a study of "Patterns of Discrimination" which was conducted in Milwaukee for the State Industrial Commission. That study concluded that the representation of Negro office workers in the Wisconsin labor force was relatively so low that it seemed safe to assume the existence of unequal opportunity. The current project concentrates on the same occupational category, but in an effort to determine the ways in which both Negro and white workers seek employment, it first explores the workings and limitations of existing Milwaukee institutions in the employment field, and second the experiences of the two groups of workers both in looking for a job and while holding employment.

It is hoped that some relationship will be found between, on the one hand, difficulties in finding or holding employment and, on the other, (1) approaches to placement by such institutions as employment services, training programs, or schools; (2) attitudes of employers and co-workers; (3) the worker's perception of the reasons for his difficulties; or (4)

his personal problems, his appearance, his attitude, etc. Thus, the study will attempt to identify, for further study, the areas where some of the barriers to employability may lie. While it may lead to some tentative recommendations for further investigation of such barriers, its primary function is to lay the groundwork for a study in depth and for experiments with possible remedies.

An interview has been devised which will be administered to a representative sample of workers--both employed and unemployed. The respondents were randomly selected from (1) the active file of the Employment Service and Youth Opportunity Center of registered workers in the clerical and sales field; (2) graduates of the MDTA training program; (3) workers who applied directly to selected MVEEOC employers (from among those who both were and were not hired); (4) on-the-job trainees selected by the Urban League; and (5) January 1966 graduates of selected high schools.

Data gathered from the interviews will be subjected to a number of analyses, falling into three major categories. First, an attempt will be made to correlate the demographic characteristics of the respondents (including family background) with their experience in looking for work and their employment record. Second, comparisons will be made between the educational and counseling history of those with particular employment problems and their specific employment experiences and socio-economic characteristics. Finally, an effort will be made to establish the precise connection between employment experience and personal characteristics (such as family or personal problems and history, the respondent's appearance and habits, etc.). This last comparison will be more difficult, since in most cases the information will be obtained subjectively. It may nevertheless help in understanding the respondent's perception of the attitudes of others toward him.

In the area of possible remedies to problems of employability, the three areas of analysis may be approached, respectively, by (1) attempting to change the institutional setting of the school, the training course, the Employment Service, etc.; (2) attention to workers' personal or environmental problems on the part of social workers, psychologists, counselors, etc.; and (3) efforts to change either the motivation of the worker or the attitude of the employer (e.g., conscious or covert discrimination, lack of human consideration, etc.). Again, the last-named remedy would obviously be a long, slow procedure. For this reason, a great deal more study in depth must be undertaken before measures which might improve the climate on both sides can be recommended.

When the analysis of the interviews has been completed, and all possible conclusions are drawn from the raw data on factors influencing the respondents' employment experiences, an effort will be made to obtain from the state Employment Service, the public schools, the vocational schools, the employers, etc., corroborative information on the educational and employment experiences of the respondents, as seen from the other side. Simultaneously, those features of the institutions which are pertinent to the employment search will be subjected to continued study. Some of this inquiry has already begun, with the primary objective of determining the extent to which improvements in the institutional setting might favorably affect investigation of employment barriers and possibly leading to experiments with such improvements. It is hoped that, despite the preliminary nature of this study, it will lead to some conclusions and observations of general value, as well as to some insights into the objective and subjective problems which workers experience in their search for employment.

Evaluation of Vocational Retraining Programs for Unemployed and Disadvantaged Workers

Research Investigators: Gerald G. Somers, Professor of Economics, in association with Glen Cain, Assistant Professor of Economics, and Graeme H. McKechnie, Project Associate, Industrial Relations Research Institute, with the assistance of Leonard Hausman, Michael Rich, John Bowman, and Wilbur Smith.

The research on this project was initiated under a 1962 grant from the Ford Foundation and has now been integrated with the activities of the Center. Earlier work and publications in connection with this research were reported in the first Annual Report. In the past year, work has been concentrated as follows:

(1) The employment experience of retrained workers in West Virginia has been related to their geographic mobility. The mobile trainees have been compared with control groups of non-mobile trainees, non-mobile non-trainees, and mobile non-trainees. The purpose was to see whether mobility is significantly related to training and whether the combination of mobility and training results in improved employment opportunities and earnings for previously unemployed workers. This phase of the research has resulted in the following publications during the past year:

> Gerald G. Somers, "The Experience with Retraining and Relocation," presented at the Conference on Manpower Policy, Berkeley Unemployment Project, New York City, June 20-22, 1966, to be published by John Wiley in 1966-67.
>
> Graeme H. McKechnie, Retraining and Geographic Mobility: An Evaluation, unpublished Ph.D. dissertation, The University of Wisconsin, 1966.
>
> Murray Tucker, Gerald Somers, and Graeme H. McKechnie, Retraining and Migration as Factors in Regional Economic Development, a report prepared for the Office of Regional Economic Development, September 1966.

(2) Research evaluating retraining programs for disadvantaged workers has involved special analyses of the experience of Negro trainees in West Virginia; special analyses of the experience of older unemployed workers

in retraining programs in West Virginia and other parts of the country; and a follow-up evaluation of retraining programs for recipients of public assistance in Milwaukee. The following publications have resulted:

Gerald G. Somers, "An Evaluation of Retraining Programs for Unemployed Older Workers," presented at a conference sponsored by the National Council on the Aging, Washington, D.C., October 1965, to be published by World Publishing Company, 1966.

Gerald G. Somers, "Government-Subsidized On-the-Job Training: Surveys of Employer Attitudes," hearings before the Subcommittee on Employment and Manpower of the Committee on Labor and Public Welfare, U.S. Senate, September 13, 1965.

Graeme H. McKechnie, "The Older Worker and Retraining--A Survey of MDTA Experience," presented at the National Conference on Manpower Training and the Older Worker, sponsored by the National Council on the Aging, Washington, D.C., January 17-19, 1966, and published in the conference proceedings.

Glen Cain and Gerald Somers, "Retraining the Disadvantaged Worker," presented at the Conference on Research in Apprenticeship Training, co-sponsored by the U.S. Office of Manpower Policy, Evaluation, and Research and the Center for Studies in Vocational and Technical Education, September 8-9, 1966, to be published in the conference proceedings.

Gerald G. Somers, "An Evaluation of Government Retraining Programs for Older Unemployed Workers in the U.S.A.," Proceedings of the Seventh International Congress of Gerontology, Vienna, Austria, June 27 - July 2, 1966.

VOCATIONAL GUIDANCE AND COUNSELING

The Role of Values in the Vocational Aspirations and Expectations of a Selected Group of Students from Early Adolescence through Young Adulthood

Research Investigator: Philip A. Perrone, Associate Professor of Counseling and Behavioral Studies, with the assistance of Joan Zitzer.

During the past two years, a study has been conducted of the educational and vocational plans of a group of students, and their parents' aspirations for them. The students were in the seventh and eighth grades when the study began and are entering their sophomore or junior years of high school this fall. Approximately 250 children and their parents are participating.

It is apparent that both the plans of children and their parents' aspirations for them change over time, but the nature of these changes and the influences which cause them are unknown. A graduate student with training as an interviewer-counselor is presently serving in the capacity of information giver and information retriever. The procedure is to summarize what these pupils and their parents say about educational and vocational plans; to note changes in plans, as well as discrepancies between parents and children; to present this summary to the pupils; and to interview the students in order to obtain their explanations of what has taken place.

Information regarding family background and psychometric and scholastic records will be used in describing these students. The school system has been very cooperative in making information available. Joan Zitzer is developing her Master's thesis around this project and will do all the interviewing in the school. A Ph.D. dissertation by the director of gudiance in this school system is also anticipated. Two publications have resulted from this study, and another is in preparation:

Elwyn H. Nagel, Values in Occupational Preferences of Junior High Boys, unpublished Ph.D. dissertation, The University of Wisconsin, 1964.

Philip A. Perrone, "Values and Occupational Preferences of Junior High School Girls," Personnel Guidance Journal, Vol. 44 (1965), pp. 253-57.

Philip A. Perrone, "Stability of Junior High School Pupils' and Parents' Vocational Values after Two Years," submitted to the Personnel Guidance Journal.

Characteristics Differentiating High School Students Judged by Instructors as Having Good and Poor Worker Potential

Research Investigators: Philip A. Perrone, Associate Professor of Counseling and Behavioral Studies, and Donald H. Johnson, Psychologist with the Milwaukee Vocational, Technical, and Adult School, in association with Lee Hill, with the assistance of Lance Oswald.

There are 269 boys and 388 girls who have completed capstone courses (final course in a sequence of vocationally oriented courses) in 30 cooperating schools in Wisconsin's Pilot Program in Vocational Education. Vocational classroom instructors, using the criterion of projected on-the-job performance, have identified pupils comprising the upper and lower quarters of their classes. These students were then compared on 30 different psycho-social characteristics which are reported in a dissertation by Donald Johnson. A further comparison of girls in three different capstone programs was the subject of a Master's thesis by Geraldine Chinn.

Principal findings indicate that boys rated as potentially poor performers are lower in mental ability, poorer scholastically, have lower occupational and educational aspirations, place lower value on achievement, and possess poorer self-concepts than those rated as potentially better performers. Those boys rated as unemployable within the group with poor potential came from the lowest socio-economic backgrounds (based on father's occupation and parents' education), had still lower regard for the importance of work, and had almost negative self-concepts.

Girls rated as potentially poor performers were lower in mental ability, poorer scholastically, had lower occupatonal expectations and aspirations, placed lower value on achievement, and in general possessed poorer self-concepts than girls rated as better potential workers.

It appeared that vocational instructors relied on mental ability and performance standards when considering potential on-the-job performance and employability of girls. These variables were considered in the ratings

of on-the-job performance of boys, but more emphasis was placed on social background when considering employability of boys. To the extent that their values, needs, and goals depart from traditional work-success norms, the boys are more likely to be rated as unemployable. These boys exhibit characteristics frequently attributed to employees who fail to obtain or are frequently dismissed from jobs.

The data has been further analyzed to determine whether differences exist among students enrolled in different vocational programs. In her unpublished Master's thesis (1966), Miss Chinn compared girls in office practice, secretarial practice, and distributive education. Among girls rated as potentially good performers in these programs, the fathers of secretarial students had more education than the fathers of girls in office practice. Girls in both office practice and secretrial practice were rated higher in cultural refinement and thoroughness than girls in distributive education. However, these groups, especially in academic areas, were more similar than different.

Among girls rated as potentially poor performers, the secretarial group, when compared with those in office practice, were described by teachers as more dependable, industrious, and thorough. They were seen as having better personal appearance, getting along better with others, having better social habits, and being more employable. The only other difference was that girls in distributive education were rated as having better personal appearances than girls in office practice. The similarities again outnumber the differences.

A comparison of boys rated as potentially good performers in trade and industrial programs with boys in distributive education and office work shows that the latter had a lower standardized achievement test score

in science, and their fathers were employed in higher level jobs. The ultimate career objective and socio-economic status of the worker model were higher for the distributive education and office work students.

Within the groups rated as poor performers, the distributive education and office work boys differed only in that they described themselves as better students than did the trade and industrial students.

Support is being sought, through a grant request submitted to the U.S. Office of Education, for funds allocated through the Vocational Education Act of 1963 to follow these pupils into the work setting. A follow-up interview form and a parallel questionnaire have been developed. A work supervisor's rating sheet has also been adapted from ones used in other studies. Much of the responsibility for this follow-up study will be in the hands of Lee Hill, a Ph.D. candidate in counselor education.

An initial follow-up is anticipated this fall, focusing on placement and initial work adjustments; a second follow-up is planned for the summer of 1967, when the experiences of the first year can be studied and a more valid evaluation of work performance obtained.

The following publications have resulted from this study:

Geraldine Chinn, A Descriptive Study of Female High School Students in Office Practice, Secretarial Practice, and Distributive Education Programs, unpublished Master's dissertation, The University of Wisconsin, 1966.

Donald H. Johnson, Psycho-social Characteristics of Secondary School Vocational Trainees Rated by Their Instructors as Having Poor Worker Potential, unpublished Ph.D. dissertation, The University of Wisconsin, 1966.

Article forthcoming by Perrone and Johnson containing the results of the above, plus subsequent analysis.

An Evaluation of the Use of Occupational Data in the Vocational Counseling of High School Students

Research Investigators: Philip A. Perrone, Associate Professor of Counseling and Behavioral Studies, and Gerald G. Somers, Professor of Economics, in association with Barbara A. Klees, with the assistance of Lola P. Gross.

This survey of the use of occupational literature in high schools was prompted by the realization of how little was known about the materials school personnel use, how they use them, and whether more use would be made of outlook and description materials if new formats were made available. The research was undertaken in order to determine where the difficulties lie, and to discover what can be done to remedy the situation. Two pilot studies were conducted before the survey materials were compiled. After the questionnaires had been formulated, another pilot study was conducted in Wisconsin, to test the effectiveness of the instrument for use in a national survey.

The basic goals of the survey remain essentially the same as outlined in last year's Annual Report. However, an additional aim might be included at this point--the development of a type of occupational literature that will be useful and pertinent to the vocational counseling of high school youth.

The first purpose of the research has been accomplished (see the Center's first Annual Report). The second purpose is in the process of being realized--the set of questionnaires has been sent to all public high schools in the United States. The third purpose, as well as the additional one mentioned above, will be fulfilled in the final stage of the survey. It is also hoped that this study may provide incentive for further research, resulting in the writing of theses and dissertations.

To date, the progress made on the survey includes the mailing of a set of questionnaires--a Counselor's form, a Principal's form, a Librarian's

form, and three Vocational Instructor's forms--to all U.S. public high schools during May 1966. There were about 2,500 responses to the survey materials. In September 1966, a postcard follow-up was mailed to schools from which there had been no response, resulting in an additional 600 replies thus far.

A second follow-up is planned as soon as responses to the first follow-up have been tabulated and evaluated. The original set of questionnaires will be re-sent, together with a cover letter describing the goals of the survey and stressing the importance of school personnel in the successful completion of the project.

All questionnaires received so far have been coded and punched on IBM cards, so that responses to any question may be sorted out and counted.

Approximately 100 personal letters have been sent to school systems in connection with this study, many of them in reply to letters received from the schools expressing an interest in the study or stating that the school could not participate until the materials had been cleared through a central administrative office. As a result of this correspondence, many of the school systems in the major U.S. cities have agreed to participate in the survey.

Some interviews have been conducted by the Bureau of Labor Statistics in cooperation with the study. Additional interviews are planned, as soon as the data are collected and evaluated and schools that make either little use or exceptional use of occupational literature have been defined. It is believed that these depth interviews will supplement the information obtained through the questionnaires and aid in the interpretation of some of the responses.

FOLLOW-UP EVALUATION OF VOCATIONAL EDUCATION

An Evaluation of the Effectiveness of Vocational and Technical Education in the United States

Research Investigators: Richard W. Whinfield, J. Kenneth Little, Norman F. Dufty, Graeme H. McKechnie, and Gerald G. Somers.

Plans for this research have been completed (see the first Annual Report), and a proposal for funds has been submitted to the U.S. Office of Education. The major objective is to achieve a quantitative and qualitative appraisal of the effectiveness of vocational and technical education in the United States, especially since the passage of the Vocational Education Act in 1963. The study will evaluate the employment experience of students graduated from vocational and technical courses in June 1966, analyze their characteristics and attitudes, and explore the possibilities of gathering adequate data for a cost-benefit analysis of the efficiency of a variety of vocational and technical education programs.

The sample will consist of approximately 25,000 graduates of randomly selected high schools, vocational schools, technical schools, and vocational and technical courses in other schools and colleges; it will include part-time as well as full-time students, and youths as well as adults. The first mail questionnaire will be distributed this fall, a second in the summer of 1967, and a third in the summer of 1968. A smaller sample of graduates, dropouts, and rejected applicants will be interviewed personally. Questionnaires will also be sent to a sample of employers who have hired members of the student samples. The employer questionnaires will be designed to provide an evaluation of the vocational and technical programs in general, as well as of the graduates of specific programs in particular schools and areas.

Portions of this research will be sub-contracted to the Educational Systems Research Institute, Pittsburgh, and to the Bureau of Social Science

Research, Inc., Washington, D.C., although The University of Wisconsin will assume primary responsibility for data processing, as well as for the final composite report to the U.S. Office of Education.

The Relationship of Vocational Education to Post-High School Occupations of High School Graduates

Research Investigator: Gerald Matteson (Doctoral Dissertation completed under the supervision of Professor Walter Bjoraker, College of Agriculture, and with assistance from the Center).

This is a study of the occupations of male graduates of 10 high schools, mostly rural, in Northeast Wisconsin, who had not attended college, nor served in the Armed Forces more than six months. At the time of the study, they had been out of high school either five or six years. The research compared job attainment and job satisfaction of those who had differing amounts of vocational education in high school, and found little association between type and level of occupation and number of vocational studies in high school. A sizeable majority had entered occupations different from those of their fathers. They had also remained in their communities. The youths, as a group, were low average in scholastic ability. The study supports that vocational subjects were elected in preference to academic studies, probably for reasons other than to achieve definite occupational objectives. Many of the youth expressed the desire to have additional vocational training, but few were so engaged at the time of the study.

V. GRADUATE STUDY, FELLOWSHIPS, AND INTERNSHIPS

Graduate Study in Vocational and Technical Education

One of the major objectives of the Center has been to encourage and promote graduate study in the field of vocational and technical education. Research assistantships are currently available for activities in connection with the university-wide program of research on problems in this area, including studies of the job market and occupational trends; analysis of job requirements and skills; worker mobility; human aptitudes, skills, and knowledge required by occupational groupings; development of instructional materials; curriculum planning; teaching practices; instructor qualifications; and other projects related to the general goals of strengthening programs of education, training, or counseling for youth and adults for employment or re-employment.

Research assistants may work toward graduate degrees in agriculture, economics, education, engineering, commerce, industrial relations, political science, psychology, sociology, or other fields which have a pertinent relationship to important aspects of vocational and technical education. It is anticipated that their work on vocational education as graduate students will encourage them to continue their interest in this field during their postgraduate careers.

Following is a list of the 12 graduate students currently supported by the Center, with a brief indication of their research or project activities:

Economics

John Bowman, Leonard Hausman, Michael Rich, and Wilbur Smith are assistants to Professor Gerald G. Somers and associate investigators Glen Cain and Graeme H. McKechnie in their study of "An Evaluation of Vocational Retraining Programs for Unemployed and Disadvantaged Workers."

Collette Moser and William Peyton are working with Professor Somers on "An Evaluation of Statistics on Job Vacancies and Occupational Forecasts for Purposes of Planning Vocational Education and Retraining."

Arlayne Weston is assisting Professor Kirk Petshek in his study of "Barriers to Employability."

Education

John Houle and Joseph McGivney are assisting Professors John Helling and J. Kenneth Little in their research, entitled "The South Milwaukee County Study."

Industrial Relations

Barbara Klees has worked with Professors Philip A. Perrone and Gerald G. Somers in their "Evaluation of the Use of Occupational Data in the Vocational Counseling of High School Students."

Karl O. Magnusen is conducting research for a Master's dissertation under the direction of Professor Alan C. Filley, on "A Study of Registered Joint Apprenticeship Committees in Wisconsin Building Trades."

S. Muthuchidambaran is assisting Professor W. Lee Hansen with his work on "Long-Range Occupational Projections."

The Intern Program

As changes take place in our economy and in our manpower needs, vocational and technical programs must also change to anticipate these modifications. This places a particular premium on the functional staff of these programs, at both the administrative and the teaching levels. Teacher education agencies, in turn, are hard pressed to anticipate the staff needs of vocational institutions, not so much in terms of quantity as of quality. One of the most effective ways to deal with this problem is to provide those pursuing a career in vocational

education with an opportunity for further study and to offer those who seek such a career extensive experience in an institutional vocational setting.

The first function has been served thus far primarily through a program of disseminating information on the latest research findings and techniques to personnel of vocational schools, by providing financial support for travel and per diem expenses to conferences and institutes held on the campus of The University of Wisconsin. This procedure was followed in the Center's Conference on Research in Vocational and Technical Education, June 10-11, 1966; the Conference on Research in Apprenticeship Training, September 8-9, 1966; and the one-week institute on Research Approaches to the Initiation of New Programs in Vocational and Technical Education, October 3-7, 1966 (for details see the section of this report on Conferences).

The Center's internship program was designed to place graduate students in operational settings where they could carry out regular activities as teachers, administrators, or researchers on a part-time basis, for which they would receive a salary, as well as fulfill their role as students. Potential settings for such a program include high schools, the Wisconsin vocational schools, junior colleges in other states, state departments of vocational education, and research centers. One graduate student, James Crabtree, has been thus employed during a portion of the past year, and efforts are being made to interest other students in this program. It is anticipated that one or two Fellows, drawn from the professional staff of the vocational education system, will be permitted to pursue full-time graduate study at the university in the coming year.

VI. CONFERENCES

An important function of the Center is the arrangement and sponsorship of conferences and workshops designed to bring together personnel in vocational and technical education, university faculty members, and federal government officials interested and active in the field. Three such conferences have been held this year, and others are planned for 1967.

Research in Vocational and Technical Education, June 10-11, 1966

A national conference on research in vocational and technical education, sponsored by the Center, featured seventeen papers, followed by panel discussions, reporting important new research on all aspects of vocational education. A major feature of the conference was the inclusion among those in attendance of 36 Conference Fellows--vocational school teachers and administrators whose expenses were paid by the Center. The conference was divided into six sessions, as follows:

(1) Vocational Education and the Disadvantaged, Howard Rosen, Assistant Director of the U.S. Office of Manpower Policy, Evaluation, and Research, chairman. Papers presented were "Vocational Interests and Personality Patterns of School Dropouts of High Ability," by Bartell W. Cardon, Assistant Professor of School Psychology at the Pennsylvania State University; "The Prediction of Outcomes of MDTA Programs," by

Harold A. Edgerton, President of Performance Research, Inc., Washington, D.C.; and "Retraining the Disadvantaged," by Glen G. Cain, Assistant Professor of Economics, and Gerald G. Somers, Professor of Economics at The University of Wisconsin.

(2) Job Clusters and General Vocational Skills, J. Kenneth Little, Co-Director of the Center, chairman (in the absence of David S. Bushnell, Director of the Division of Adult and Vocational Research of the U.S. Office of Education). Papers presented were "General Vocational Skills and the Secondary Curriculum," by Edward J. Morrison, Director of the Vocational Research Program at the American Institutes for Research; and "The Cluster Concept," by Nevin R. Frantz, Project Coordinator of the Department of Industrial Education at the University of Maryland.

(3) Occupational Choice, Job Placement, and Employment Experience, Max U. Eninger, Educational Systems Research Institute, Pittsburgh, chairman. Papers presented were "Job Placement and Employment Experience of High School Graduates," by Jacob J. Kaufman, Professor of Economics and Director of the Institute for Research on Human Resources at the Pennsylvania State University; "School and Community Factors in the Placement of Vocational Graduates," by James W. Altman, Director of the Institute for Performance Technology of the American Institutes for Research; and "Some Misconceptions about Occupational Choice," by Robert A. Ellis, Director of the Center for Research in Occupation Planning at the University of Oregon.

(4) Experiments in Counseling, Curriculum, and Training, William B. Micheels, President of Stout State University, Menomonie, Wisconsin, chairman. Papers presented were "Rehabilitation and Training of School Dropouts," by Victor O. Hornbostel, Associate Professor of

Education at Oklahoma State University; "Job Simulation as a Means of Encouraging Career Interests," by John D. Krumboltz, Associate Professor of Education and Psychology at Stanford University, and Lawrence E. Shoppard, of the Jefferson Elementary School District in Daly City, California; and "A Study of Recommendations for Technical Education Curricula," by Joseph P. Arnold, Assistant Professor of Industrial Education at Purdue University.

(5) Some Economic Considerations in Vocational Education Planning, W. Lee Hansen, Professor of Economics and Educational Policy Studies at The University of Wisconsin, chairman. Papers presented were "When Should Vocational Education Begin? (A Cost-Benefit Analysis)," by Arthur J. Corazzini, Assistant Professor of Economics at Dartmouth College; "An Exploratory Socio-Economic Study of Private Vocational Schools," by Harry V. Kincaid and Edward A. Podesta of the Stanford Research Institute; and "Industry Participation in Local Vocational and Technical Education Programs," by Samuel M. Burt, Project Director with the W. E. Upjohn Institute for Employment Research.

(6) Curriculum Developments in Vocational Education Programs, J. Kenneth Little, Professor of Educational Administration at The University of Wisconsin, chairman. Papers presented were "Pre-technology Programs in the San Francisco Bay Area," by George Champion, Director of the Center for Technological Education at San Francisco State College; "Common Elements in Paramedical Education," by Willard M. Fetterhoff, Assistant Professor of Education at Arizona State University; and "Project FEAST: A Preparatory Program for Employment in Hotels and Restaurants," by Louis F. Batmale, Coordinator of Technical-Terminal Education at the City College of San Francisco.

The discussants who participated in the conference included Wesley J. Face, Project Director at Stout State University; Marvin J. Feldman, Program Associate with the Ford Foundation; Loren A. Ihnen, Associate Professor of Economics at North Carolina State University, Raleigh; Sylvia G. McCollum, Program Planning Officer with the U.S. Office of Education; Graeme H. McKechnie, Project Associate with the Center for Studies in Vocational and Technical Education at The University of Wisconsin; Donald E. Maurer, Coordinator of Trades and Industries at Southern Illinois University; Bernard Michael, Division of Adult and Vocational Research at the U.S. Office of Education; Jerome Moss, Jr., Associate Professor of Industrial Education at the University of Minnesota; Philip A. Perrone, Associate Professor of Counseling and Behavioral Studies at The University of Wisconsin; Robert A. Ristau, Vocational Education Division of the Wisconsin State Department of Public Instruction; T. Antoinette Ryan, Director of the Research Coordination Unit at Oregon State University; Harland E. Samson, Associate Professor of Curriculum and Instruction at The University of Wisconsin; Carl J. Schaefer, Chairman of the Department of Vocational-Technical Education at Rutgers University; Laure M. Sharp, Senior Research Associate with the Bureau of Social Science Research, Inc., Washington, D. C.; and Richard W. Whinfield, Administrative Associate with the Center for Studies in Vocational and Technical Education at The University of Wisconsin.

Ralph C. Wenrich, head of the Division of Vocational and Technical Education at the University of Michigan, spoke to the entire group of 120 participants following the conference banquet.

The proceedings of the conference will be available early in 1967.

Research in Apprenticeship Training, September 8-9, 1966

At a conference on research in apprenticeship training, co-sponsored by the Center and the U.S. Office of Manpower Policy, Evaluation, and Research, important recent research was presented and discussed by people from apprenticeship agencies on the federal, state, and local levels, as well as academic research investigators. The broad objective of this conference was to stimulate research on all aspects of apprenticeship training and to encourage wider dissemination of research results, in the hope that training programs can be made to perform more effectively their crucial role in the changing industrial structure of this country.

The papers presented at the conference dealt with a variety of problems in the field of apprenticeship. They included "The Pursuit of Excellence in Apprenticehip Training: Research Procedures, Instruments, and Challenges," by Alfred S. Drew, Project Director for Apprenticeship Research in the Department of Industrial Education at Purdue University; "Apprenticeship in the United States: Labor Market Forces and Social Policy," by David J. Farber, Assistant Chief of the Division of Research at the U.S. Bureau of Apprenticeship and Training; "A Study of Registered Joint Apprenticeship Committees in Wisconsin Building Trades," by Alan C. Filley, Associate Director, and Karl O. Magnusen, Research Assistant with the Industrial Relations Research Institute at The University of Wisconsin; "National and State Apprenticeship, 1960-66: Up to Date or Out of Date?" by F. F. Foltman, Professor at the New York State School of Industrial and Labor Relations at Cornell University; "The Negro, Apprentice Training Programs, and Testing," by Irving Kovarsky, Professor of Labor Law in the College

of Business Administration at the University of Iowa; "Increasing Apprenticeship Opportunities through Pre-employment Training," by John S. McCauley, Director of the Office of Manpower Training Operations in the U.S. Bureau of Employment Security; "Negro Participation in Apprenticeship Programs," by Ray Marshall, Professor of Economics at the University of Texas; and "Related Instruction: Basic Problems and Issues," by George Strauss, Professor of Business Administration at the University of California, Berkeley.

Chairing the four conference sessions were Curtis C. Aller, Director of the U.S. Office of Manpower Policy, Evaluation, and Research; Garth L. Mangum, of the W. E. Upjohn Institute for Employment Research; Frederic Meyers, Chairman of the Department of Business Administration at the University of California, Los Angeles; and Winn Newman, Assistant to the Executive Director of the Equal Employment Opportunity Commission.

Among the formal discussants at the conference were Jack Barbash, Professor of Economics at The University of Wisconsin; A. Harvey Belitsky, of the W. E. Upjohn Institute for Employment Research; Joseph P. Corcoran, Director of Training for Journeymen and Apprentices for the United Association of Journeymen and Apprentices of the Plumbing and Pipe-fitting Industry of the U.S. and Canada (AFL-CIO); Ernest Green, Field Director for Apprenticeship Programs of the Workers Defense League; Charles F. Hanna, Chief of the Division of Apprenticeship Standards in the State of California Department of Industrial Relations; Adolph Holmes, Associate Director for Economic Development and Employment with the National Urban League; Morris A. Horowitz, Professor of Economics in the Bureau of Business and Economic Research at Northeast-

ern University; Don Irwin, Manager for Personnel Research and Planning with the Chrysler Corporation, Detroit; Paul V. Johnson, Associate Director of the Apprenticeship Research Program in the Graduate School of Industrial Administration at Purdue University; Frank G. Musala, Director of Apprenticeship for the State of Minnesota Industrial Commission; Herbert A. Perry, Assistant Professor of Economics at Sacramento State College; Don Slaiman, Director of the Civil Rights Department of the AFL-CIO; Sol Swerdloff, Chief of the Division of Manpower and Occupational Outlook at the U.S. Bureau of Labor Statistics; Joseph V. Tuma, Executive Director of the Upper Peninsula Community Action Program in Michigan; Leon S. Tunkel, Director of the Division of Manpower in the State of New York Department of Labor; and Don Vial, Chairman of the Center for Labor Research and Education at the University of California, Berkeley.

Hugh Murphy, Director of the U.S. Bureau of Apprenticeship and Training, spoke to the conference banquet guests, and Charles T. Nye, Director of Apprenticeship for the State of Wisconsin Industrial Commission, served as banquet chairman.

The conference was attended by over 120 officials from federal and state agencies, members of academic institutions, and personnel of labor and management organizations who are involved in apprenticeship training and research. Specifically included in the list of invited guests were members of the American Apprenticeship Round Table; the Research Council of the Great Cities Program for School Improvement; apprenticeship directors, educational directors, coordinators, and training fund administrators of the International Union, National Joint Apprenticeship Committee, and National Association; and members of the National Associa-

tion of State Training and Apprenticeship Directors. A number of the invited observers were provided their travel expenses by the Center.

Proceedings of the conference will be available in the spring of 1967.

Research Approaches to the Initiation of New Programs in Vocational and Technical Education, October 3-7, 1966

This conference was attended by representatives of local schools from Wisconsin, Illinois, Indiana, Iowa, Minnesota, and Michigan. The Center provided travel expenses and, in some cases, salary offsets to those in attendance. With the variety of new technologies and the changes taking place in manpower needs, it has become increasingly difficult for people on the local level to ascertain what new job opportunities are developing. The purpose here was to familiarize the participants with some of the techniques available for identifying and determining the need for new programs.

The conference was both an information and a working session, outlining many techniques and sources of help. The conferees were given an opportunity to react to each presentation, and at the end were divided into two groups, each with the job of developing a procedure for analyzing a hypothetical community. The results of the group findings were compared and discussed. In addition, the participants were able to work on specific topics.

Conference sessions included "The Need for New Vocational-Technical Programs," by J. R. Plenke, Chief of Trade and Technical Education for the Wisconsin State Board of Vocational, Technical, and Adult Education; "Areas of Assistance from Private Employers," by George A. Howden, Division Engineer with the Wisconsin Telephone Company in Appleton;

"State Employment Service Research Services," by A.E. Hunter, Director of Research and Planning at the Minnesota State Department of Employment Security; "National Research Services," by William G. Shannon, Associate Executive Director of the American Association of Junior Colleges in Washington; "The Problems and Techniques of Conducting Local Surveys," by John Helling, Professor of Education at The University of Wisconsin; "Vocational Coordination: Research Report," by Harland Samson, Associate Professor of Curriculum and Instruction at The University of Wisconsin; Retrieval Systems and Services," by J. Kenneth Little, Co-Director of the Center for Studies in Vocational and Technical Education at The University of Wisconsin; "Industrial Involvement in Initiating New Programs," by Samuel Burt, Special Assistant to the Director of the U.S. Employment Service; "The Follow-up Study: Problems and Techniques," by Max U. Eninger, Director of the Educational System Research Institute in Pittsburgh; "Problems in Program Development," by Richard W. Whinfield, Administrative Associate with the Center for Studies in Vocational and Technical Education at The University of Wisconsin; and "Student Characteristics," by Philip A. Perrone, Associate Professor of Counseling and Behavioral Studies at The University of Wisconsin.

Those attending the conference included Joseph J. Babes, Industrial Coordinator for the School Administration at East Chicago, Indiana; Robert E. Bergstrom, Assistant Director for Vocational and Adult Education in Duluth, Minnesota; Alfred Bracciano, Director of Vocational Education for the Warren, Michigan, Consolidated Schools; Elmo J. Bush, Administrative Assistant to the Board of Education in East St. Louis; Charles J. Christianson, Assistant Director of Wausau, Wisconsin, Technical Institute; James E. Cook, Dean of Instruction at the Kellogg Community College in Battle Creek, Michigan; John W. Craig, Vocational Specialist with the Bureau of Vocational and Practical Arts Educa-

tion and Special Programs of the Chicago Board of Education; W. R. Hammans, Area V Director for the Community College in Fort Dodge, Iowa; Roland J. Krogstad, Supervisor of Vocational and Adult Education for the Wisconsin State Board of Vocational, Technical, and Adult Education; Victor E. Larsen, Instructional Services Supervisor with the Coleman Technical Institute in LaCrosse, Wisconsin; Leon C. Linden, Coordinator for the St. Paul, Minnesota, Technical Vocational Institute; Robert M. Madson, Consultant for Vocational Program Development with the Minnesota Department of Education; Russell Maples, Consultant for Vocational Education with the Lansing, Michigan, Public Schools; F. Harold Matthews, Dean of Vocational-Technical Education at the Jackson, Michigan, Community College; Howard Maynard, Director of Vocational-Technical Education for the Macomb County Intermediate School in Mt. Clemens, Michigan; Spiro Mehail, Curriculum Coordinator for the Milwaukee Institute of Technology; Harry Mysather, Director of the Brainerd, Minnesota, Vocational-Technical School; Albert Pitts, Local Vocational Coordinator for Union High School in Union Grove, Wisconsin; M. C. Prottengeier, Director of Vocational and Adult Education for the Pontiac, Michigan, School District; Richard Roberts, Supervisor of Trade and Industrial Education with the Wisconsin State Department of Public Instruction; John Robertson, Supervisor of Trade and Industrial Education with the Urbana, Illinois, High School; Richard Schultz, Director of Vocational-Technical Education for the Eastern Iowa Community College in Bettendorf, Iowa; Keith W. Stoehr, Instructional Supervisor at the Kenosha, Wisconsin, Technical Institute; Mrs. Barbara Topping, of the Laboratory School at Indiana State University in Terre Haute; Laurence J. Varda, of Breitung Township Schools

in Kingsford, Michigan; and Mrs. Mary Watson, Terre Haute, Indiana.

A report on the conference events will be available in the spring of 1967.

Curriculum Developments in Vocational and Technical Education, scheduled for February 1967

The Center is planning a conference on curriculum developments and their evaluation, to be held jointly with the Center for Technological Education, San Francisco, California, which will stress evaluation of action programs in high schools and community colleges. Present plans call for participation by staffs of experimental programs being directed at Central Michigan University, Mount Pleasant, Michigan; Newton, Massachusetts, Public Schools; and public school systems in California and in other places where innovative programs have been established. Because much of this type of activity is centered in California, present plans call for the meeting to be held in the San Francisco area.

The Education and Training of Racial Minorities, scheduled for May 11-12, 1967

Despite general improvements in national unemployment rates, unemployment among racial minorities, especially Negro youth, remains at exceptionally high levels. In addition to its serious economic and welfare implications, this unemployment has contributed to civic and political instability in a number of American communities.

Although much of the enforced idleness among minority groups can be traced directly to racial discrimination, it is generally agreed that indadequate levels of education and training have also played a significant role. Indeed, some authorities have noted that employers

need not overtly discriminate against Negroes; to bar them from employment, they need only enforce rigorous educational and skill standards in their hiring procedures.

As the racial issue has become more serious, a growing number of scholars have turned to a research investigation of the causes and consequences of the educational and skill deficiencies of minority groups. These research investigators will be invited to report on their findings at the conference. Among those who have so far agreed to present papers are Ray Marshall, Professor of Economics at the University of Texas; Walter A. Fogel, of the Institute of Industrial Relations at the University of California, Los Angeles; Lamar Jones, Professor of Economics at the Virginia Polytechnic Institute; Eli Ginzberg, Professor of Economics at Columbia University; Herbert E. Striner, of the W. E. Upjohn Institute for Employment Research in Washington; Marvin J. Feldman, Program Associate with the Ford Foundation; and Vivian W. Henderson, President of Clark College, Atlanta.

As in the case of the Center's earlier research-oriented conferences, it is anticipated that the published proceedings will make an important contribution to the literature on this vital subject.

Encouragement of Federally Supported Research in Vocational Education and Training, scheduled for early 1967

Predominantly Negro colleges and universities have not taken full advantage of federal funds available for research in vocational education and manpower training. This conference will bring together representatives of several Negro institutions of higher learning, faculty members from predominantly white colleges and universities in the same communities, and spokesmen from the U.S. Office of Education and the

Office of Manpower Policy, Evaluation, and Research of the U.S. Department of Labor.

The conference will consider procedures for constructing and presenting research proposals in this field, and it will establish inter-university cooperative arrangements for the preparation of proposals and for the conduct of the resultant research.

VII. PUBLICATIONS

The final stated objective of the Center's program is the dissemination of research findings in the field of vocational and technical education. The Center has initiated a series of publications, including a professional journal, a newsletter, a more detailed periodic report of Center activities, a reprint series, conference proceedings, and an assortment of publications describing in detail the acquisitions and procedures of the Reference Unit. In addition, the Center has published and will continue to publish brochures outlining opportunities for graduate study and research and the various services and publications available at the Center.

The Journal of Human Resources

This year The Journal of Human Resources has progressed from the "drawing board" to reality. With two issues in print and a third in press, the Journal is now a going concern. In addition to the funds provided it by the Center, it has received substantial support from The University of Wisconsin, through the Industrial Relations Research Institute, and from the Institute for Research on Poverty, established at the university this year and funded largely by a grant from the U.S. Office of Economic Opportunity.

Volume I, Number 1 (Summer 1966), featured the following articles: "Investing in Human Capital," by Burton A. Weisbrod of The University of Wisconsin; "The Supply of and Demand for College Teachers," By Allan M. Cartter, Vice President of the American Council on Education; "Effects

of General Education in Manpower Programs," by William F. Brazziel, Director of General Education at the Norfolk Division of Virginia State College; and "Toward an Economics of Health, Education, and Welfare," a review article by Robert J. Lampman of The University of Wisconsin. Also included was a report from the Center's Conference on Occupational Data Requirements for Education Planning (see the first Annual Report), with excerpts from the remarks of Sar A. Levitan, Consultant with the W.E. Upjohn Institute for Employment Research in Washington; Neil W. Chamberlain of Yale University; John T. Dunlop of Harvard University; and Jacob J. Kaufman, Director of the Insitute for Research on Human Resources at Pennsylvania State University.

The first issue also contained a special Communications section, featuring notes on "Poverty, Aggregate Demand, and Economic Structure," by Joseph A. Kershaw and Robert A. Levine of the President's Office of Economic Opportunity, and on "Vocational Education: Its Place and Process," by Edward J. Meade, Jr., and Marvin J. Feldman of the Ford Foundation. Research programs and requirements were offered by Ida C. Merriam of the Social Security Administration, by the Division of Adult and Vocational Research of the U.S. Office of Education, and by the U.S. Office of Manpower Policy, Evaluation, and Research.

Another special department was Research in Progress, which reported on major follow-up studies under way throughout the country. Reviews and a Briefly Noted section, which contains abstracts of books not reviewed, rounded out the Journal's first issue.

Volume I, Number 2 (Fall 1966) features "Education, Vintage, and Learning by Doing," by A. K. Sen of the Delhi School of Economics; "The Effect of Low Educational Attainment on Incomes: A Comparative Study of Selected Ethnic Groups," by Walter Fogel, of the Institute of Industrial

Relations at the University of California, Los Angeles; "Graduate Study and Its Relation to Careers: The Experience of a Recent Cohort of College Graduates," by Laure M. Sharp, of the Bureau of Social Science Research in Washington; "Job Vacancy Measurement," by Myron L. Joseph, of the Carnegie Institute of Technology; and "The Cost of U.S. College Student Exchange Programs," by Herbert G. Grubel of the University of Pennsylvania and Anthony Scott of the University of British Columbia; plus reviews and the Briefly Noted section.

January 1967 is the expected release date of Volume II, Number 1 (Winter 1967), the Journal's third issue, and thereafter publication will be on a regular quarterly basis. Its contents will include "The Iso-Prop Index: An Approach to the Determination of Differential Poverty Income Thresholds," by Harold W. Watts, Director of the Insitute for Research on Poverty at The University of Wisconsin; "Careers, Counseling, and the Curriculum," by Harold L. Wilensky of the University of California, Berkeley; "Negro Participation in Apprentice Programs," by Ray Marshall and Vernon M. Briggs, Jr., of the University of Texas; "When Should Vocational Education Begin?" by A. J. Corazzini of Dartmouth College; "Apprenticeship in the United States: Labor Market Forces and Social Policy," by David J. Farber of the Office of Manpower Policy, Evaluation, and Research, U.S. Department of Labor, together with comments by A. Harvey Belitsky of the W.E. Upjohn Institute for Employment Research and Jack Barbash of The University of Wisconsin; and a review article on Gary Becker's Human Capital by M.W. Reder of Stanford University.

Scheduled for future publication in The Journal of Human Resources are a series of symposium issues: "Rates of Return to Investments in Education," with W. Lee Hansen of The University of Wisconsin as guest editor; and "The Geographic Mobility of Labor," with Gerald G. Somers,

co-director of the Center and chairman of the Journal's Board of Editors, as guest editor. Plans are also being made for symposia on the economics of health, research on counseling and guidance, research on occupational classification, and an evaluation of the poverty programs of the U.S. government.

An expression of the felt need for a publication such as The Journal of Human Resources may be found in the rather remarkable response to promotional efforts on its behalf by The University of Wisconsin Press. Before Volume I, Number 1, appeared, the subscription list numbered over 100, and at this writing the Journal has more than 350 subscribers. The Press has prepared two promotional pieces for the Journal--25,000 copies of a single-sheet brochure, and 10,000 copies of an eight-sheet brochure--and has included us in general promotional efforts for all its journals. As the extensive distribution of these brochures continues, and as advertising in behalf of the Journal appears in scholarly journals in related fields, further growth in subscriptions can be anticipated. In the meantime, sample copies of the first two issues are being sent to a large list of people working in the human resources field.

The staff of the Journal now includes two book review editors, Philip A. Perrone and Murray A. Tucker, and some additional clerical and editorial assistance for Mrs. March, the editorial associate. Thus, the only gap in staffing, albeit a major one, is the Editor's position. The interdisciplinary interests and skills required make it especially difficult to find the right person for this job. Until then, as chairman of the Journal's Board of Editors, Mr. Somers continues to serve the Editor's function.

The IRRI Report

During the past year, the Center has continued to publish this

periodic bulletin, reporting on current activities of the Center and the Industrial Relations Research Institute. At present, it is sent to nearly 1,000 individuals and institutions. Issues are published in the autumn and spring; the second issue appeared in April 1966, and the third is in press and scheduled to be out this month.

For the most part, the format of the report remains unchanged. It includes five major sections, covering (1) news from the Institute; (2) news from the Center; (3) a feature article; (4) research in progress, reporting on current research activities of both the Center and the Institute; and (5) a list of publications, including abstracts of recent additions to the Center and Institute reprint series, as well as recent publications of faculty affiliated with the Center and the Institute. The section on selected readings has been temporarily suspended, but will be resumed when machine abstracts are available from the Center's Reference Unit.

The Newsletter

A newsletter published by the Center was recently distributed to the Center's entire mailing list. It is expected to appear every two months. Succeeding newsletters will include a bibliography on a pertinent topic in vocational and technical education.

Conference Proceedings

The Proceedings of the Conference on Occupational Data Requirements for Education Planning (described in the Center's first Annual Report) appeared in the spring of 1966. Proceedings of the more recent conferences sponsored by the Center are presently being prepared for publication (see the section of this report on Conferences).

The Reprint Series

To date, three articles relating to research in the vocational education field have been included in the joint Center-Industrial Relations Research Institute reprint series: W. Lee Hansen's "Human Capital Requirements for Educational Expansion: Teacher Shortage and Teacher Supply," reprinted from C. Arnold Anderson and Mary Jean Bowman, eds., Education and Economic Development (Chicago: Aldine Publishing Co., 1965); "Labor Force and Occupational Projections," also by Professor Hansen, reprinted from the Proceedings of the Eighteenth Annual Meeting of the Industrial Relations Research Association, New York, December 1965; and "On the Monetary Value of Education's Intergeneration Effects," by William J. Swift and Burton A. Weisbrod, reprinted from the Journal of Political Economy (December 1965). Earlier articles dealing with vocational training were included in the IRRI reprint series.

The purpose of this reprint series is to provide wider distribution of faculty publications and research findings in the vocational education and industrial relations fields. A total of some 20 articles a year is reprinted, including both areas of research, and sent to a mailing list of approximately 300 individuals and institutions on request.

Reference Unit Publications

The Reference Unit serves as a national depository and clearing house for important studies and research-related information in the field of vocational and technical education. Recently compiled and reproduced for distribution are selected bibliographies covering 18 topics: administration and organization, curriculum, instructional methods, guidance, teaching staff and selection, educational policy, job analysis,

job placement, work experience, apprenticeship, legislation, manpower, technological change, finance, job cluster concepts, disadvantage groups, retraining, and cost-benefit analysis. These extensive bibliographies are being sent to all interested persons on the Reference Unit's mailing list, which numbers approximately 1,500 at present. They will be followed by monthly addenda listing materials recently acquired by the Center in the respective areas. The broad interest in this operation is evidenced by the fact that the bibliographies, both topical and periodic, are being disseminated to persons and institutions in Canada, Puerto Rico, Venezuela, Italy, India, and other countries throughout the world.

As a further service to research workers and others seeking information about the nation's resources for vocational and technical education, the Center has undertaken the publication of a nation-wide directory listing (1) secondary and post-secondary schools which offer programs of vocational and technical education; (2) the fields in which the programs are offered, i.e., distributive, office, health, trade and industrial and technical education, vocational agriculture, and vocational home economics; and (3) types of curricula and programs in each field, e.g., full-time, part-time, cooperative, apprenticeship, and special needs programs. This directory will be the first comprehensive listing of such programs in the United States. The Center was encouraged to undertake this compilation by the U.S. Office of Education; the directory may provide a model for a publication of this type.

In addition, the Reference Unit periodically distributes bulletins and reports describing its data collections and the findings of associated research personnel.